TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

August 14, 1981

Mr. James P. O'Reilly, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Region II - Suite 3100
101 Marietta Street
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2 - STRUCTURAL TRACK FOR FUEL TRANSFER EQUIPMENT - NCR 1287 - FINAL REPORT

The subject nonconformance was initially reported to NRC-OIE Inspector R. W. Wright on November 26, 1980, in accordance with 10 CFR 50.55(e). This was followed by our interim reports dated December 23, 1980 and May 6, 1981. Enclosed is our final report. We do not now consider 10 CFR Part 21 to be applicable to this nonconformance.

If you have any questions concerning this matter, please get in touch with D. L. Lambert at FTS 857-2581.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure
cc: Mr. Victor Stello, Jr., Director (Enclosure)
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
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ENCLOSURE
BELLEFONTE NUCLEAR PLANT UNITS 1 AND 2
STRUCTURAL TRACK FOR FUEL TRANSFER EQUIPMENT
NCR 1287
FINAL REPORT

Description of Deficiency

The Fuel Transfer System is used to transport fuel assemblies between the Reactor Building and the storage pool. Welds on the system's track section structural support members do not conform to the AISC Code as specified in the Final Safety Analysis Report (FSAR).

Safety Implications

Failure of the structural supports for the fuel transfer equipment could have resulted in a fuel handling accident. This accident may have resulted in deformation of a fuel assembly and subsequently could have resulted in a release of radioisotopes inside the Auxiliary Building.

Corrective Action

The rail supports for the Fuel Transfer System are to be used as is. B&W calculations confirm that the welds, as constructed, are adequately sized for the loads imposed.

The welds were made using current industry practices as a guide; inspection by TVA welding engineers revealed that the welds are sufficient to serve their design function despite the minor surface discrepancies detected by visual examination. No overstressed welds were identified in a spot check of weld stresses performed by TVA.

In order to determine any action required to prevent recurrence and any generic implications of the subject deficiency, TVA held a telephone conference with B&W on July 20, 1981. During this conference, B&W stated that the subject deficiency represented a simple misunderstanding and agreed to clarify the FSAR, and TVA emphasized the importance of the accuracy of information appearing in the FSAR. In a letter to TVA dated July 27, 1981, B&W stated that Table 9.1.4-7 was originally meant to reference the AISC Code for design work, not to indicate a strict adherence to the code. B&W stated in that letter that when the AISC specification allowable stresses are used, the yield stress values for stainless steel base metal are obtained from Section III of the ASME B&PV Code, and the design stresses defined in the AISC specification as percentages of the yield stress are used. Permissible stresses for stainless steel weld calculations prepared in accordance with the AISC Code are obtained from Table NF-3292.1 of ASME Section III Code. AISC is an industrywide standard that gives guidelines for methods, models, etc., and is a ready reference for any design consideration. AISC has tables of allowables which vary in accordance with material characteristics, shapes, and types of stresses, i.e., tensile, shear, etc. B&W further stated that they will revise FSAR Table 9.1.4-7 to state that the AISC Code was used for determination of allowable stresses and stress techniques only.

In light of the B&W statements, it is TVA's position that no additional action to prevent recurrence is required at this time. If, in the future, any similar deficiencies are identified, TVA will reevaluate the above position.